IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In Re the Application of:

Robert W. Warren, Jr.

Serial No.: 10/767,505

Filed: January 28, 2004

Atty. Docket No.: STL11661/
390-009-USP

For: METHOD AND SYSTEM FOR GENERIC DATA TRANSFER INTERFACE

Group Art Unit: 2181

Confirmation No.: 5517

Examiner: Martinez, David E.

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. § 41.41

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to the Appellant's earlier filed Notice of Appeal, the Appellant appealed the Examiner's December 12, 2007 Office Action finally rejecting claims 1-25. Appellants' Reply to the Examiner's Answer mailed December 31, 2008 is submitted herewith. This Reply Brief is believed to be fully compliant with 37 C.F.R. § 41.41.

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I. Real Party In Interest

The real party in interest in this appeal is:

Seagate Technology, LLC
920 Disc Drive
Scotts Valley, California 95066

II. Related Appeals And Interferences

No other appeals or interferences are currently known to Appellant that will directly affect, be directly affected by, or have a bearing on the decision to be rendered by the Board of Patent Appeals and Interferences in the present appeal.

III. Status Of Claimed Subject Matter

Claims 1, 7, and 15 are independent claims. Claims 2-6, 8-14, and 16-25 are dependent claims.

In view of the Final Office Action mailed December 12, 2007, claims 1-25 stand finally rejected and are the subject of this appeal.

IV. Status of Amendments

The Office advised the Appellant in the Advisory Action mailed March 17, 2008 that the amendments filed in Appellant's response to the Final Office Action mailed December 12, 2007 will not be entered for purposes of appeal because they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal. However, Appellants note that no claim amendments were made in the Response to Final Office Action filed February 12, 2008. No amendments have been filed since the Response to the Final Office Action filed, with a Request for Continued Examination, on November 27, 2006. All amendments filed were previously entered.

V. **Summary of Claimed Subject Matter**

Independent claim 1 is directed to a host interface (301). *See, e.g.*, Specification at p. 2, lines 8-10 and FIG. 3. The host interface (301) comprises a channel select bit encoder (303) that asserts to a media controller (302) one or more channel select bits. *See, e.g.*, Specification at p. 2, line 10 and FIG. 3. The channel select bits indicate one of a plurality of virtual channels (305-308, 315-322) through which the host interface (301) will communicate over a data bus (311) with the media controller (302). *See, e.g.*, Specification at p. 2, lines 10-11 and FIG. 3. Additionally, the host interface (301) comprises a virtual channel controller (304) coupled to the channel select bit encoder (303) that establishes a connection for address-less transfer between the indicated virtual channel of the host interface (301) and a corresponding virtual channel of the media controller (302). *See, e.g.*, Specification at p. 2, lines 12-14, p. 7, lines 5-8, and FIG. 3.

Independent claim 7 is directed to a media controller (302). *See, e.g.*, Specification at p. 2, lines 17-18 and FIG. 3. The media controller (302) comprises a channel select bit decoder (312) that decodes one or more channel select bits received from a host interface (301). *See, e.g.*, Specification at p. 2, lines 18-19 and FIG. 3. The channel select bits indicate one of a plurality of virtual channels through which the host interface (301) will communicate over a data bus (311) with the media controller (302). *See, e.g.*, Specification at p. 2, lines 19-20 and FIG. 3. Additionally, the media controller (302) comprises a virtual channel controller (314) coupled to the channel select bit decoder (312) that decodes the one or more channel select bits and establishes a connection for address-less transfer between the indicated virtual channel of the host interface (301) and a corresponding virtual channel of the media controller (302) selected

based on the one or more decoded channel select bits. *See, e.g.*, Specification at p. 2, lines 20-23, p. 7, lines 5-8, and FIG. 3.

Independent claim 15 is directed to a data storage device. *See, e.g.*, Specification at p. 2, lines 24-26 and FIG. 3. The data storage device comprises a host interface (301) and a media controller (302). *See, e.g.*, Specification at p. 2, lines 25-27 and FIG. 3. In addition, the host interface (301) comprises a channel select bit encoder (303) that asserts one or more channel select bits. *See, e.g.*, Specification at p. 2, lines 26-27 and FIG. 3. Also, the channel select bits indicate one of a plurality of virtual channels (305-308, 315-322) through which the host interface (301) will communicate over a data bus (311). *See, e.g.*, Specification at p. 2, lines 27-28 and FIG. 3. Further, the media controller (302) comprises a channel select bit decoder (312) that decodes one or more channel select bits received from the host interface (301). *See, e.g.*, Specification at p. 3, lines 3-4 and FIG. 3. Also, the media controller (302) comprises a virtual channel controller (314) coupled to the channel select bit decoder (312) that establishes a connection for address-less transfer between the indicated virtual channel of the host interface (301) and a corresponding virtual channel of the media controller (302) selected based on the one or more decoded channel select bits. *See, e.g.*, Specification at page 3, lines 4-7, page 7, lines 5-8, and FIG. 3.

VI. Issues To Be Reviewed On Appeal

The issues for review are whether claims 1-4, 7-10, 13-18, and 21-25 are anticipated by U.S. Patent Application Publication No. 2002/0169960 to Iguchi et al. ("Iguchi") under 35 U.S.C. § 102(b); whether claims 5, 11, and 19 are unpatentable under 35 U.S.C. § 103(a) over Iguchi in view of U.S. Patent No. 6,763,405 to Sardo et al. ("Sardo"); and whether claims 6, 12, and 20 are unpatentable under 35 U.S.C. § 103(a) over Iguchi in view of U.S. Patent

No. 5,790,811 to Hewitt ("Hewitt").

VII. Argument

A. Iguchi fails to disclose or suggest a media controller as recited in independent claims 1, 7, and 15.

During the prosecution of this application, the Office has alleged Iguchi discloses a media controller, and cited both an unidentified "component" of mobile terminal 103 of Iguchi and storage device 120 of Iguchi as a "media controller." Appellants respectfully submit, however, that Iguchi provides no teaching or suggestion that mobile terminal 103 or storage device 120 is a media controller as recited in the independent claims. Further, Iguchi fails to provide any disclosure or suggestion of any media controller.

In Examiner's Response to Argument A-2, at page 12 of the Examiner's Answer, the Examiner has stated that "The application of the references to the distinct grouping of claims is consistent within the distinct groupings (claim trees)." Appellants respectfully submit, however, that the inconsistent interpretations of the Iguchi reference are mutually exclusive. The media controller of independent claims 1, 7, and 15 cannot be equated with both an unidentified component of mobile terminal 103 of Iguchi and a storage device 120 of Iguchi.

In the Examiner's Answer mailed 31 December 2008, the Examiner cited paragraphs [0090] and [0119], and stated that paragraphs [0090] and [0119] "disclose explicit support for 'the host will communicate over a data bus with the media controller." Appellants respectfully disagree.

Paragraph [0090] of Iguchi states "OPEN_CHANNEl 1201 is a command that the mobile terminal 103 issues to the storage device 120 in order to configure a virtual communications-path therebetween. The storage device 120 returns the number of the virtual communications-path.

The communications hereinafter are performed using the virtual communications-path number."

Paragraph [0119] of Iguchi states "OPEN_CHANNEL 1600 is a command that the decoder circuit 206 issues to the storage device 120 via the storage device interface 207 in the mobile terminal 103 in order to establish the virtual communications-path between the decoder circuit 206 and the storage device 120. Having received the OPEN_CHANNEL 1600 command, the storage device 120 returns the number of the virtual communications-path. The communications hereinafter are performed using this virtual communications-path number."

Neither paragraph [0090] nor paragraph [0119] of Iguchi discloses or suggests that a connection is established between a host device and a **media controller**. Rather, Iguchi discloses a virtual communications-path between the decoder circuit 206 in mobile terminal 103 and the storage device 120. The Examiner has alleged that "Applicant's own admission is in agreement with the Examiner's interpretation of the Iguchi reference." Appellants respectfully note, however, that the storage device 120 is not a media controller. Further, referring to FIG. 2 of Iguchi, the virtual communications-path taught by Iguchi appears to be established between decoder circuit 206 in mobile terminal 103 and host interface 122 of the storage device 120. Thus, the virtual communications-pathway taught by Iguchi is **not** established between a host device and a media controller. Appellants' statements regarding the virtual-communications pathway are **not** in agreement with the Examiner's interpretation of the Iguchi reference.

As Iguchi fails to disclose or suggest a virtual communications pathway between a host device and a media controller, Appellants respectfully submit that Iguchi fails to disclose all of the features of independent claims 1, 7, and 15, and those claims depending directly or indirectly therefrom. Reconsideration and allowance of the claims is respectfully requested.

B. Iguchi fails to disclose or suggest a media controller including a channel select bit decoder and a virtual channel controller, as recited in independent claim 7

In the Examiner's Response to Argument A-2 at page 12 of the Examiner's Answer, the Examiner noted that "the Iguchi reference does teaches the channel select bit decoder and the virtual channel controller exist within separate components as is also allowed in claim 7." Further, the Examiner noted that "in claim 7, the media controller only calls for the channel select bit decoder to be within the media controller, whereas the virtual channel controller only has to be coupled to the media controller and may be located external to it (and is the way it is being interpreted)." Appellants respectfully disagree.

Independent claim 7 is directed to a media controller that **comprises**, *inter alia*, a channel select bit decoder **and** a virtual channel controller coupled to the channel select bit decoder. Appellants respectfully note that, while the claim requires that the virtual channel controller be coupled to the channel select bit decoder, the claim also requires that these elements be included in the media controller. Appellants note that the transitional term "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. *See* MPEP 2111.03. Accordingly, Appellants respectfully submit that the Office's interpretation of independent claim 7 is inconsistent with the transitional term "comprising."

As acknowledged by the Examiner in the Examiner's Answer, Iguchi explicitly teaches that the channel select bit decoder and the virtual channel controller exist within separate components. Independent claim 7, in contrast, requires that both components are included in the media controller. Accordingly, Iguchi does not anticipate independent claim 7, or those claims depending directly or indirectly therefrom.

As noted above, Appellants respectfully submit that Iguchi fails to disclose all of the features of independent claim 7, and those claims depending directly or indirectly therefrom. Reconsideration and allowance of the claims is respectfully requested.

C. Conclusion

In view of the law and facts stated herein, Appellant respectfully submits that the reasoning and the references cited by the Office are insufficient to maintain anticipation and obviousness rejections of the claims. Appellant respectfully urges that the rejection of claims 1-25 under 35 U.S.C. § 102(b) or U.S.C. § 103(a) is improper. Reversal of the rejections in this application is respectfully requested.

A representative from the U.S. Patent and Trademark Office is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Date: 2 March 2009

Respectfully submitted,

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VIII. Claims Appendix

1. (previously presented) A host interface comprising:

a channel select bit encoder that asserts to a media controller one or more channel select bits indicating one of a plurality of virtual channels through which the host interface will communicate over a data bus with the media controller;

a virtual channel controller coupled to the channel select bit encoder that establishes a connection for address-less transfer between the indicated virtual channel of the host interface and a corresponding virtual channel of the media controller.

2. (previously presented) The host interface of claim 1, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer data between the host interface and the media controller.

3. (previously presented) The host interface of claim 1, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer control signals between the host interface and the media controller.

4. (previously presented) The host interface of claim 1, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer side band information between the host interface and the media controller.

5. (previously presented) The host interface of claim 23, wherein the communication controller transfers data to and from the media controller synchronous with a clock in the host controller.

6. (previously presented) The host interface of claim 23, wherein the communication controller transfers data to and from the media controller based on a quadrature handshake model.

7. (previously presented) A media controller comprising:

a channel select bit decoder that decodes one or more channel select bits received from a host interface indicating one of a plurality of virtual channels through which the host interface will communicate over a data bus with the media controller;

a virtual channel controller coupled to the channel select bit decoder that decodes the one or more channel select bits and establishes a connection for address-less transfer between the indicated virtual channel of the host interface and a corresponding virtual channel of the media controller selected based on the one or more decoded channel select bits.

8. (previously presented) The media controller of claim 7, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer data between the host interface and the media controller.

9. (previously presented) The media controller of claim 7, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer control signals between the host interface and the media controller.

10. (previously presented) The media controller of claim 7, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer side band information between the host interface and the media controller.

11. (previously presented) The media controller of claim 24, wherein the communication controller transfers data to and from the host interface synchronous with a clock in the host interface.

12. (previously presented) The media controller of claim 24, wherein the communication controller transfers data to and from the host interface based on a quadrature handshake model.

13. (previously presented) The media controller of claim 7, wherein the connection is a peer-to-peer connection and the media controller limits access to a storage medium of a data storage device through the peer-to-peer connection.

14. (previously presented) The media controller of claim 13, wherein the media controller limits access to the storage medium based on one or more registers relating to each of the virtual channels of the media controller, the registers indicating a range of addresses on the storage medium that may be accessed via the related virtual channel of the media controller.

15. (previously presented) A data storage device comprising:

a host interface comprising a channel select bit encoder that asserts one or more channel select bits indicating one of a plurality of virtual channels through which the host interface will communicate over a data bus; and

a media controller comprising a channel select bit decoder that decodes the one or more channel select bits received from the host interface and a virtual channel controller coupled to the channel select bit decoder that establishes a connection for address-less transfer between the indicated virtual channel of the host interface and a corresponding virtual channel of the media controller selected based on the one or more decoded channel select bits.

16. (previously presented) The data storage device of claim 15, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer data between the host interface and the media controller.

17. (previously presented) The data storage device of claim 15, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer control signals between the host interface and the media controller.

18. (previously presented) The data storage device of claim 15, wherein the connection is a peer-to-peer connection and the indicated virtual channel of the host interface and the corresponding virtual channel of the media controller are used to establish the peer-to-peer connection to transfer side band information between the host interface and the media controller.

19. (previously presented) The data storage device of claim 25, wherein the communication controller of the host interface transfers data to and from the media controller synchronous with a clock in the host controller.

20. (previously presented) The data storage device of claim 25, wherein the communication controller of the host interface transfers data to and from the media controller based on a quadrature handshake model.

21. (previously presented) The data storage device of claim 15, wherein the connection is a peer-to-peer connection and the media controller limits access to a storage medium of the data storage device through the peer-to-peer connection.

22. (previously presented) The data storage device of claim 21, wherein the media controller limits access to the storage medium based on one or more registers relating to each of the virtual channels of the media controller, the registers indicating a range of addresses on the storage medium that may be accessed via the related virtual channel of the media controller.

23. (previously presented) The host interface of claim 1 further comprising:

a communication controller that transfers data between the host interface and the media controller via address-less transfer.

24. (previously presented) The media controller of claim 7 further comprising:

a communication controller that transfers data between the host interface and the media controller via address-less transfer.

25. (previously presented) The data storage device of claim 15 wherein the host interface further comprises:

a communication controller that transfers data between the host interface and the media controller via address-less transfer.

IX. Evidence Appendix

None

X. Related Proceedings Appendix

None